

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please cancel claims 1-4 without prejudice.

Listing of Claims:

Claims 1-4 (Canceled)

5. (original) In a wireless network environment comprising at least one authorized access point, a method for containing rogue access points, the rogue access points including a virtual carrier-sense mechanism operative to adjust a counter in response to wireless frames transmitted from wireless stations, wherein the data frames include a duration value, the counter controlling the transmission of frames by the rogue access point, comprising

- detecting a rogue access point,
- identifying at least one authorized access point that neighbors the rogue access point;
- selecting at least one authorized access point in the identifying step;
- configuring the at least one selected access point to periodically transmit wireless frames, the data frames including a predetermined duration value, and wherein the interval at which the data frames are periodically transmitted is less than the duration value.

6. (original) The method of claim 5 wherein the wireless frames are transmitted on all available frequency channels.

7. (original) The method of claim 5 further comprising

identifying the channel on which the rogue access point is transmitting; and
wherein the wireless frames are transmitted on the identified channel.

8. (original) The method of claim 5 further comprising

identifying the channel on which the rogue access point is transmitting; and
wherein the wireless frames are transmitted on a range of channels centered on the
identified channel.

9. (previously presented) In a wireless network environment implementing a protocol
according to which wireless stations terminate connections with access points upon receipt
of de-authentication and/or disassociation frames, a method for containing rogue access
points, comprising

detecting a rogue access point, the rogue access point identified by a wireless
network address;

selecting at least one authorized access point;

emulating the rogue access point and transmitting connection-terminating frames at
a repetition interval to terminate connections between the rogue access point and the
wireless client devices associated with the rogue access point to prevent transmission of
frames between the rogue access point and the wireless client devices associated with the
rogue access point.

10. (previously presented) The method of claim 9 wherein the emulating step comprises
periodically broadcasting, at a the repetition interval, de-authentication frames,

wherein the source address of the de-authentication frames is the wireless network address of the detected rogue access point.

11. (original) The method of claim 10 wherein the repetition interval is heuristically determined to prevent wireless clients from transmitting data to or receiving data from the rogue access point.

12. (original) The method of claim 10 further comprising reducing the repetition interval upon detection of data frames transmitted between the rogue access point and a wireless client device.

13. (original) The method of claim 10 further comprising
periodically broadcasting, at a second repetition interval, disassociation frames,
wherein the source address of the disassociation frames is the wireless network address of the detected rogue access point.

14. (previously presented) The method of claim 9 wherein the emulating step comprises
periodically broadcasting, at the repetition interval, disassociation frames, wherein the source address of the disassociation frames is the wireless network address of the detected rogue access point.

15. (previously presented) In a wireless network environment implementing a protocol according to which wireless stations terminate connections with access points upon receipt of de-authentication and/or disassociation frames, a method for containing rogue access points, comprising

detecting a rogue access point, the rogue access point identified by a wireless network address;

selecting at least one authorized access point;

emulating the rogue access point and periodically broadcasting, at repetition interval, beacon frames, wherein the beacon frames announce a contention-free period, and wherein the contention-free period is greater than the repetition interval.

16. (previously presented) A rogue containment device, comprising

a network interface operably connected to a computer network to communicate with at least one wireless network access device,

a rogue containment module operative to

receive data characterizing a rogue access point;

configure one or more of the at least one wireless network access device to emulate the rogue access point and transmit connection-terminating frames at a repetition interval.

17. (original) The rogue containment device of claim 16 wherein the at least one wireless network access device is an access point.

18. (original) The rogue containment device of claim 16 wherein the at least one wireless network access device is an access element in a hierarchical wireless network system.

19. (canceled)

20. (previously presented) The rogue containment device of claim 16 wherein the

connection terminating frames are de-authentication frames.

21. (previously presented) The rogue containment device of claim 16 wherein the connection terminating frames are disassociation frames.

22. (previously presented) The rogue containment device of claim 16 wherein the connection terminating frames are transmitted at a fixed repetition interval.

23. (previously presented) The rogue containment device of claim 16 wherein the repetition interval is adjusted in response to detection of wireless traffic transmitted between the rogue access point and a wireless client.

24. (previously presented) A wireless network system enabling a directed association mechanism, comprising

- a plurality of access elements for wireless communication with at least one remote client element and for communication with a central control element;

- a central control element for supervising at least one of said access elements, wherein the central control element is operative to manage and control the wireless connections between the access elements and corresponding remote client elements; and

- wherein the access elements are each operative to:

- establish and maintain, in an access point mode, wireless connections with remote client elements;

- switch to a scanning mode for a scanning period at a scanning interval to detect wireless traffic,

- record scan data characterizing the detected wireless traffic, and

transmit the scan data to the central control element;
wherein the central control element is operative to
process the scan data against information relating to known access
elements to identify rogue access points,
to contain the detected rogue access point(s); and
wherein the central control element is operative to
establish a tunnel with access elements for transmission of wireless
traffic associated with corresponding remote client elements, and
bridge network traffic between a computer network and a remote
client element through a tunnel with a corresponding access element.

25. (canceled)

26. (previously presented) The system of claim 24 wherein the computer network
comprises at least one network device operative to switch or route data units between
devices connected thereto, the data units including a source address and a destination
address, wherein the at least one network device comprises at least two ports to which
other devices connect, and wherein the at least one network device is operative to store the
source addresses of the data units encountered at the ports of the at least one network
device, and

wherein the central control element is operative to
determine the address of at least one rogue client associated with the rogue
access point; and
identify the port to which the rogue access point is connected by querying,
using the addresses of the at least one rogue client, the at least one network device for the

port at which data units sourced from the at least one rogue client were encountered.

27. (original) The system of claim 26 wherein the central control element is operative to report the identified port to a network administrator.

28. (original) The system of claim 26 wherein the central control element is operative to disable the identified port.

29. (previously presented) The system of claim 24 wherein the central control element is operative to configure one or more access elements to contain the detected rogue access point(s).

30. (original) The system of claim 29 wherein the central control element is operative to configure one or more of the access elements to emulate the rogue access point and transmit connection-terminating frames.

31. (original) The system of claim 30 wherein the connection terminating frames are de-authentication frames.

32. (original) The system of claim 30 wherein the connection terminating frames are disassociation frames.

33. (original) The system of claim 30 wherein the connection terminating frames are transmitted at a fixed repetition interval.

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34. (original) The system of claim 30 wherein the connection-terminating frames are transmitted as a repetition interval, and wherein the repetition interval is adjusted in response to detection of wireless traffic transmitted between the rogue access point and a wireless client.